

What is claimed is:

1. A method of improving data transfer in a virtual network, comprising steps of:  
allocating one or more outbound packing buffers for each of a plurality of particular network addresses;  
packing outbound data packets into appropriate ones of the outbound packing buffers, according to a network address within a header of each outbound data packet; and  
transmitting each outbound packing buffer onto the virtual network in a single transmission operation.
2. The method according to Claim 1, wherein each of the particular network addresses is a next-hop address on the virtual network.
3. The method according to Claim 1, wherein the network address within the header is a next-hop address inserted into the header by a sending host.
4. The method according to Claim 1, wherein the virtual network is defined by a plurality of logical partitions within a single computing device.
5. A method of improving data transfer in a virtual network, comprising steps of:  
allocating one or more outbound packing buffers for each of a plurality of first network addresses, wherein each outbound packing buffer is logically divided into a plurality of frames, the frames being associated with second network addresses;

5            packing outbound data packets into selected frames of selected ones of the outbound  
6            packing buffers, when a header of the outbound data packet to be packed specifies the first  
7            network address and the second network address which correspond to the selected outbound  
8            packing buffer and the selected frame; and  
9            transmitting each outbound packing buffer onto the virtual network in a single  
10          transmission operation.

1          6.      The method according to Claim 5, wherein the first network address comprises a next-hop  
2            address on the virtual network and the second network address comprises a final destination  
3            address.

1          7.      The method according to Claim 5, further comprising the steps of:  
2            receiving a set of frames from the transmitting step; and  
3            determining whether to forward the outbound data packets which are packed in each  
4            frame by inspecting a first packet of the frame.

1          8.      A system for improving data transfer in a virtual network, comprising:  
2            means for allocating one or more outbound packing buffers for each of a plurality of  
3            particular network addresses;  
4            means for packing outbound data packets into appropriate ones of the outbound packing  
5            buffers, according to a network address within a header of each outbound data packet; and  
6            means for transmitting each outbound packing buffer onto the virtual network in a single

7 transmission operation.

1 9. The system according to Claim 8, wherein each of the particular network addresses is a  
2 next-hop address on the virtual network and the network address within the header is a next-hop  
3 address inserted into the header by a sending host.

1 10. The system according to Claim 8, wherein the virtual network is defined by a plurality of  
2 logical partitions within a single computing device.

1 11. A system for improving data transfer in a virtual network, comprising:  
2 means for allocating one or more outbound packing buffers for each of a plurality of first  
3 network addresses, wherein each outbound packing buffer is logically divided into a plurality of  
4 frames, the frames being associated with second network addresses;  
5 means for packing outbound data packets into selected frames of selected ones of the  
6 outbound packing buffers, when a header of the outbound data packet to be packed specifies the  
7 first network address and the second network address which correspond to the selected outbound  
8 packing buffer and the selected frame; and  
9 means for transmitting each outbound packing buffer onto the virtual network in a single  
10 transmission operation.

1 12. The system according to Claim 11, wherein the first network address comprises a next-  
2 hop address on the virtual network and the second network address comprises a final destination

3 address.

1 13. The system according to Claim 11, further comprising:  
2 means for receiving a set of frames from the transmission; and  
3 means for determining whether to forward the outbound data packets which are packed in  
4 each frame by inspecting a first packet of the frame.

1 14. A computer program product for improving data transfer in a virtual network, the  
2 computer program product embodied on one or more computer readable media and comprising:  
3 computer readable program code means for allocating one or more outbound packing  
4 buffers for each of a plurality of particular network addresses;  
5 computer readable program code means for packing outbound data packets into  
6 appropriate ones of the outbound packing buffers, according to a network address within a header  
7 of each outbound data packet; and  
8 computer readable program code means for transmitting each outbound packing buffer  
9 onto the virtual network in a single transmission operation.

1 15. The computer program product according to Claim 14, wherein each of the particular  
2 network addresses is a next-hop address on the virtual network and the network address within  
3 the header is a next-hop address inserted into the header by a sending host.

1 16. The computer program product according to Claim 14, wherein the virtual network is

2 defined by a plurality of logical partitions within a single computing device.

1 17. A computer program product for improving data transfer in a virtual network, the  
2 computer program product embodied on one or more computer readable media and comprising:  
3 computer readable program code means for allocating one or more outbound packing  
4 buffers for each of a plurality of first network addresses, wherein each outbound packing buffer is  
5 logically divided into a plurality of frames, the frames being associated with second network  
6 addresses;

7 computer readable program code means for packing outbound data packets into selected  
8 frames of selected ones of the outbound packing buffers, when a header of the outbound data  
9 packet to be packed specifies the first network address and the second network address which  
10 correspond to the selected outbound packing buffer and the selected frame; and

11 computer readable program code means for transmitting each outbound packing buffer  
12 onto the virtual network in a single transmission operation.

1 18. The computer program product according to Claim 17, wherein the first network address  
2 comprises a next-hop address on the virtual network and the second network address comprises a  
3 final destination address.

1 19. The computer program product according to Claim 17, further comprising:  
2 computer readable program code means for receiving a set of frames from the  
3 transmission; and

- 4 computer readable program code means for determining whether to forward the outbound
- 5 data packets which are packed in each frame by inspecting a first packet of the frame.

continued